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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/894,864	06/27/2001	John T. Chapman	CISCP230	3690
22434	7590	05/31/2005	EXAMINER	
BEYER WEAVER & THOMAS LLP P.O. BOX 70250 OAKLAND, CA 94612-0250			BUTLER, DENNIS	
			ART UNIT	PAPER NUMBER
			2115	

DATE MAILED: 05/31/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/894,864

Applicant(s)

CHAPMAN ET AL.

Examiner

Dennis M. Butler

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-83 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 14-33, 47-65 and 75-83 is/are allowed.
- 6) ☒ Claim(s) 1-8, 10, 12, 34-40, 42, 44, 46 and 66-74 is/are rejected.
- 7) ☒ Claim(s) 9, 11, 13, 41, 43 and 45 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

8-0-0-

1. This action is in response to the amendment received on March 16, 2005. Claims 1-83 are pending.

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 66-74 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The claims are directed to functional descriptive material (a computer program product) that is a program or a set of programs not embodied in a tangible computer readable medium. Applicant's computer recited computer program product is not tangible because the specification defines the recited embodied computer readable code as a carrier wave traveling over an appropriate medium such as airwaves, optical lines, electrical lines, etc. at page 26, lines 23-24. Applicant's defined carrier wave media is intangible because it is incapable of being touched or perceived absent. The claims are directed to a disembodied data structure/code that is not statutory. An abstract idea of a data structure became capable of producing a useful result when it was fixed in a tangible medium that enabled its functionality to be realized. In re Warmerdam, 33 F.3d 1354, 31 USPQ2d 1754 (Fed. Cir. 1994).

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

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the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1-8, 10, 12, 34-40, 42, 44 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rabenko et al., U. S. Patent 6,763,032.

Per claims 1 and 34:

A) Rabenko et al teach the following claimed items:

1. at least one CPU and memory with the servers of the head end at column 4, lines 50-55;
2. a head end complex at column 3, lines 52-57;
3. end nodes with the subscriber cable modems at column 3, lines 55-65;
4. downstream and upstream channels at column 4, lines 5-20;
5. fiber nodes at column 3, lines 58-63;
6. local clock circuitry at column 7, line 66 – column 8, line 6 and at column 13, lines 34-61;

7. providing a common clock reference signal (absolute time reference 21) to the local clock circuitry in selected network devices to synchronize them to the common clock reference signal at column 13, lines 1-8, 34-39 and 43-50;

8. distributing the common clock reference signal to the network devices via a first downstream channel at column 13, lines 24-61.

B) The claims differ from Rabenko et al in that Rabenko et al fail to explicitly teach causing one or more fiber nodes to be synchronized to the common clock reference signal as claimed.

C) However, Rabenko describes providing a common clock reference signal (absolute time reference 21) to the local clock circuitry in selected network devices to synchronize them to the common clock reference signal at column 13, lines 1-8, 34-39 and 43-50 and distributing the common clock reference signal to the network devices via a first downstream channel at column 13, lines 24-61.

Rabenko describes that the network devices include head end CMTS and cable modem (CM) devices. Rabenko describes that synchronization is necessary in order to ensure that each CM transmits only within its allocated time slots at column 7, line 66 – column 8, line 6 and as described above in reference to column 13. Therefore, Rabenko describes causing CMTS and CM nodes to be synchronized to the common clock reference signal in order for the nodes to properly communicate with each other within allocated time slots. Rabenko describes providing a plurality of fiber nodes in the system that serve or communicate with subscriber cable modems at column 3, lines 58-63. The fiber

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nodes are between the CMTS and CM nodes and facilitate communication between these nodes. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to also cause one or more fiber nodes to be synchronized to the same common clock reference signal that the CMTS and CM nodes are synchronized to in order to facilitate communication between the CMTS and CM nodes by maintaining accurately synchronized time slots.

Per claims 2, 5, 10, 12, 35, 38, 42 and 44:

Rabenko describes providing a common clock reference frequency within a range of 5 to 42 Mhz at column 18, lines 54-67. Rabenko describes DOCSIS protocol at column 19, lines 23-26. Rabenko describes end nodes are cable modems at column 3, lines 55-65. Rabenko describes the common clock reference signal corresponds to a modulated carrier signal having a master time stamp at column 13, lines 24-37.

Per claims 3, 4, 6, 7, 8, 36, 37, 39, 40 and 46:

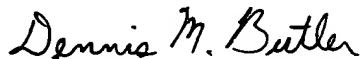
Rabenko et al teach the elements of claims 1, 2, 34 and 35 as described in the above rejection. The claims seem to differ from Rabenko et al in that Rabenko et al fail to explicitly teach the elements of claims 3, 4, 6, 7, 8, 36, 37, 39, 40 and 46. However these claims recite obvious variations of well-known synchronization and communications procedures and would have been obvious in view of the teachings and suggestions of Rabenko.

7. Claims 9, 11, 13, 41, 43 and 45 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. Claims 14-33, 47-65 and 75-83 are allowable over the art of record because the art of record does not teach or suggest the combination of elements recited in independent claims 14, 24, 47, 55, 75, and 79 and particularly the plurality of fiber nodes including at least one RF fiber node and at least one packet fiber node.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dennis M. Butler whose telephone number is 571-272-3663. The fax number is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Dennis M. Butler
Primary Examiner
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